

## CHECKLIST ENVIRONMENTAL ASSESSMENT

<b>Project Name:</b>	Werner-Taylor PCT & Coal Creek PCT
<b>Proposed Implementation Date:</b>	2013
<b>Proponent:</b>	DNRC
<b>Location:</b>	Sec. 6,7 & 18, T32N, R22W; Werner-Taylor and Sec. 36, T34N, R21W; Coal Creek
<b>County:</b>	Flathead

### I. TYPE AND PURPOSE OF ACTION

Precommercial thin 110 acres of approximately 15 year old sapling/pole size timber to maintain tree growth and vigor.

### II. PROJECT DEVELOPMENT

#### 1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

*Provide a brief chronology of the scoping and ongoing involvement for this project. List number of individuals contacted, number of responses received, and newspapers in which notices were placed and for how long. Briefly summarize issues received from the public.*

Initial reconnaissance and development of the project was started in the spring of 2013. Due to the location of the thinning units (predominately out of view of open roads) and lack of interest shown by the public regarding precommercial thinning, no formal scoping process took place. A site visit was made by the DNRC wildlife biologist to assess potential impacts to wildlife habitat.

#### 2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

*Examples: cost-share agreement with U.S. Forest Service, 124 Permit, 3A Authorization, Air Quality Major Open Burning Permit.*

None

#### 3. ALTERNATIVE DEVELOPMENT:

*Describe alternatives considered and, if applicable, provide brief description of how the alternatives were developed. List alternatives that were considered but eliminated from further analysis and why.*

1. No Action- No pre-commercial thinning would occur.

2. Action- Pre-commercial thin 110 acres.

### III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

#### 4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

*Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify direct, indirect, and cumulative effects to soils.*

Refer to Hydrology Analysis in Attachment III (page 16)

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**5. WATER QUALITY, QUANTITY AND DISTRIBUTION:**

*Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify direct, indirect, and cumulative effects to water resources.*

Refer to Hydrology Analysis in Attachment III (page 16)

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**6. AIR QUALITY:**

*What pollutants or particulate would be produced (i.e. particulate matter from road use or harvesting, slash pile burning, prescribed burning, etc)? Identify the Airshed and Impact Zone (if any) according to the Montana/Idaho Airshed Group. Identify direct, indirect, and cumulative effects to air quality.*

No effects to air quality would be expected under either alternative.

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**7. VEGETATION COVER, QUANTITY AND QUALITY:**

*What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify direct, indirect, and cumulative effects to vegetation.*

Under the no action alternative no thinning would occur. Growth of trees in the proposed units would be expected to slow due to high stand stocking levels. Growth of trees in the Coal Creek unit would be expected to suffer the most, with lodgepole seedling/saplings stagnating due to extremely high current stocking density.

Under the action alternative in the Werner-Taylor units, an average of 1000 trees per acre will be cut to reduce competition and maintain growth and vigor. Approximately 350 to 220 crop trees per acre will remain after thinning. Western white pine saplings in the thinning units will be pruned in an effort to prevent white pine blister rust infection. In the Coal Creek units, tens of thousands of lodgepole trees per acre will be masticated into blocks. In either the following year or 2 years after the initial thinning, the remaining blocks would be hand thinned to approximately 800 trees per acre. Long term effects expected from the thinning will be increased growth and vigor and reduced insect and disease damage.

No plant species of concern are known to occur within the Werner-Taylor units, nor were any found during reconnaissance of the area.

The Coal Creek unit is within the general distribution area of Slender cottongrass (*Eriophorum gracile*) and just outside of the general distribution area of Crested shieldfern (*Dryopteris cristata*). Slender cottongrass is commonly associated with open water/wetland riparian systems. Crested shieldfern is associated with moist to wet, often organic soils at the margins of fens and swamps in the montane zone. The Coal thinning unit is not located in an area where either Slender cottongrass or Crested shieldfern is associated or be expected to be found. Neither plant was seen during reconnaissance of the area. If either species was found during the thinning operation, areas containing the species would be excluded from the treatment area.

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**8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:**

*Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify direct, indirect, and cumulative effects to fish and wildlife.*

Please refer to the Wildlife Analysis in Attachment II (pages 10-14).

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**9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:**

*Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify direct, indirect, and cumulative effects to these species and their habitat.*

Please refer to the Wildlife Analysis in Attachment II (pages 10-14).

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**10. HISTORICAL AND ARCHAEOLOGICAL SITES:**

*Identify and determine direct, indirect, and cumulative effects to historical, archaeological or paleontological resources.*

No historical or archaeological sites are known to exist in the area of the Werner-Taylor thinning units.

Two historical sites, an old fire lookout and a wagon road/trail are known to exist in the vicinity of the Coal Creek thinning unit. Neither site would be impacted by this project.

If previously unknown cultural or paleontological materials are identified during project related activities, all work will cease until a professional assessment of such resources can be made.

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**11. AESTHETICS:**

*Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify direct, indirect, and cumulative effects to aesthetics.*

Under the no action alternative, no changes in visual aesthetics would occur outside of natural events.

Under the action alternative, effects to visual aesthetics would be minor and short in duration as the leave trees increase in size following treatment. Most of the Werner-Taylor thinning units are located away from roads open to public motorized use, have leave strips between the unit boundary and the open road or are located in such an area where they are blocked from view from the open road by the topography. The Coal Creek unit is located adjacent to an open road and is the most visible of all the thinning units. This unit is however relatively small when viewed in relation to the greater Coal Creek State Forest Landscape.

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**12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:**

*Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify direct, indirect, and cumulative effects to environmental resources.*

No demand for limited environmental resources or other activities demanding limited environmental resources were identified or would be expected to occur under either alternative.

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**13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:**

*List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.*

- DNRC Cyclone/Coal 99 (2000)
- Chicken-Werner (2004)
- Taylor South (2005)

#### IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

##### 14. HUMAN HEALTH AND SAFETY:

*Identify any health and safety risks posed by the project.*

Under the no-action alternative there would be no change to current potential risks to health and safety.

Under the action alternative, there would be a potential increase in fire danger on the Werner-Taylor thinning area from thinning slash. Mitigation measures to reduce fire danger would include bucking and limbing thinning slash to within 18 inches of the ground for a distance of 33 feet from the unit boundary. Mechanical mastication of the Coal Creek unit could pose a safety risk in the form of flying debris. Mitigation measures to prevent injury would include posting of signs on the Coal Creek road warning drivers and recreationalists of mowing activity ahead.

##### 15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

*Identify how the project would add to or alter these activities.*

Neither alternative would likely add to or alter industrial, commercial or agriculture activities and production.

##### 16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

*Estimate the number of jobs the project would create, move or eliminate. Identify direct, indirect, and cumulative effects to the employment market.*

Due to the relatively small size of the proposed thinning projects, neither alternative would result in measurable direct, indirect, or cumulative effects to the employment market.

##### 17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

*Estimate tax revenue the project would create or eliminate. Identify direct, indirect, and cumulative effects to taxes and revenue.*

No measurable direct, indirect, or cumulative impacts to the local and state tax base and tax revenues would be likely under either alternative.

##### 18. DEMAND FOR GOVERNMENT SERVICES:

*Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify direct, indirect, and cumulative effects of this and other projects on government services*

No direct, indirect, or cumulative impacts to demand for government services would be expected under either alternative.

##### 19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

*List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.*

In 1996, the Land Board approved the ROD for the SFLMP. The SFLMP provides philosophical basis, consistent policy, technical rationale, and guidance for the management of forested state trust lands. In 2003,

DNRC adopted the Forest Management Rules (ARM 36.11.401 through 456). The Forest Management Rules are the specific legal resource management standards and measures under which DNRC implements the SFLMP and subsequently its forest management program.

In December 2011, the Land Board approved the ROD for the Montana DNRC Forested State Trust Lands HCP. Approval of the ROD was followed by the issuance of an Incidental Take Permit (Permit) by the USFWS. The HCP is a required component of an application for a Permit which may be issued by the USFWS to state agencies or private citizens in situations where otherwise lawful activities might result in the incidental take of federally-listed species. The HCP is the plan under which DNRC intends to conduct forest management activities on select forested state trust lands while implementing specific mitigation requirements for managing the habitats of grizzly bear, Canada lynx, and three fish species: bull trout, westslope cutthroat trout, and Columbia redband trout.

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**20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:**

*Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify direct, indirect, and cumulative effects to recreational and wilderness activities.*

No direct, indirect, or cumulative impacts related to access to and quality of recreational and wilderness activities would be expected under either alternative.

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**21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:**

*Estimate population changes and additional housing the project would require. Identify direct, indirect, and cumulative effects to population and housing.*

No direct, indirect, or cumulative impacts related to population and housing would be expected under either alternative.

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**22. SOCIAL STRUCTURES AND MORES:**

*Identify potential disruption of native or traditional lifestyles or communities.*

No direct, indirect, or cumulative impacts related to social structures and mores would be expected under either alternative.

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**23. CULTURAL UNIQUENESS AND DIVERSITY:**

*How would the action affect any unique quality of the area?*

No direct, indirect, or cumulative impacts related to cultural uniqueness or diversity would be expected under either alternative.

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**24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:**

*Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify direct, indirect, and cumulative economic and social effects likely to occur as a result of the proposed action.*

No immediate return to the trust would result from either alternative. No other potential uses of the trust than current uses have been identified at this time.

<b>EA Checklist Prepared By:</b>	<b>Name:</b> Jason Glenn	<b>Date:</b> June 11, 2013
	<b>Title:</b> Forester	

## V. FINDING

**25. ALTERNATIVE SELECTED:** Following a thorough review of the EAC and Department policies and rules, the decision has been made to select the Action Alternative. The Action Alternative meets the intent of the project objectives as stated in Section I – *Type and Purpose of Action*. Specifically the project would:

- Conduct a pre-commercial thin on 110 acres of approximately 15 year old sapling/pole size timber to maintain tree growth and vigor.

### 26. SIGNIFICANCE OF POTENTIAL IMPACTS:

The identified resource management concerns have been fully addressed in the environmental analysis that was conducted. Specific project design features and various recommendations of the resource management specialists have been implemented to ensure that this project will fall within the limits of acceptable environmental change. Taken individually and cumulatively, the proposed activities are common practices, and no project activities will be conducted on important fragile or unique sites. I find there will be no significant impacts to the human environment as a result of implementing the Action Alternative. In summary, I find that the identified adverse impacts will be controlled, mitigated, or avoided by the design of the project to the extent that the impacts are not significant.

### 27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

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EIS

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More Detailed EA

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No Further Analysis

**EA Checklist  
Approved By:**

**Name:** Brian Manning

**Title:** Stillwater Unit Manager

**Signature:** /s/ Brian Manning

**Date:** 6/20/13

ATTACHMENT I – MAPS

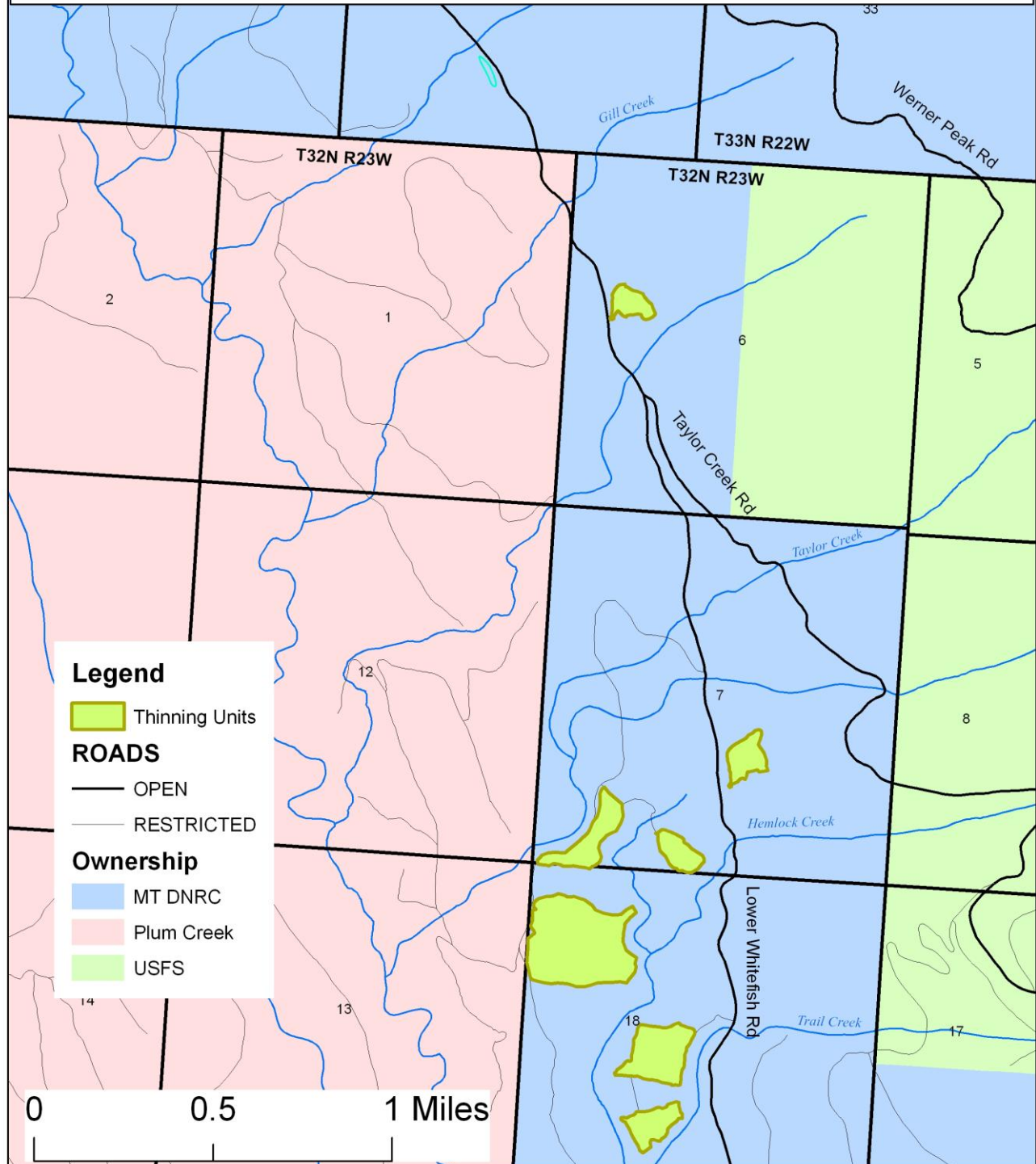
Vicinity Map.....page 7

Treatment Unit Map.....pages 8 & 9

# Werner-Taylor Precommercial Thinning

Sections 6, 7 & 13 T32N R22W

Attachment I  
1 of 2



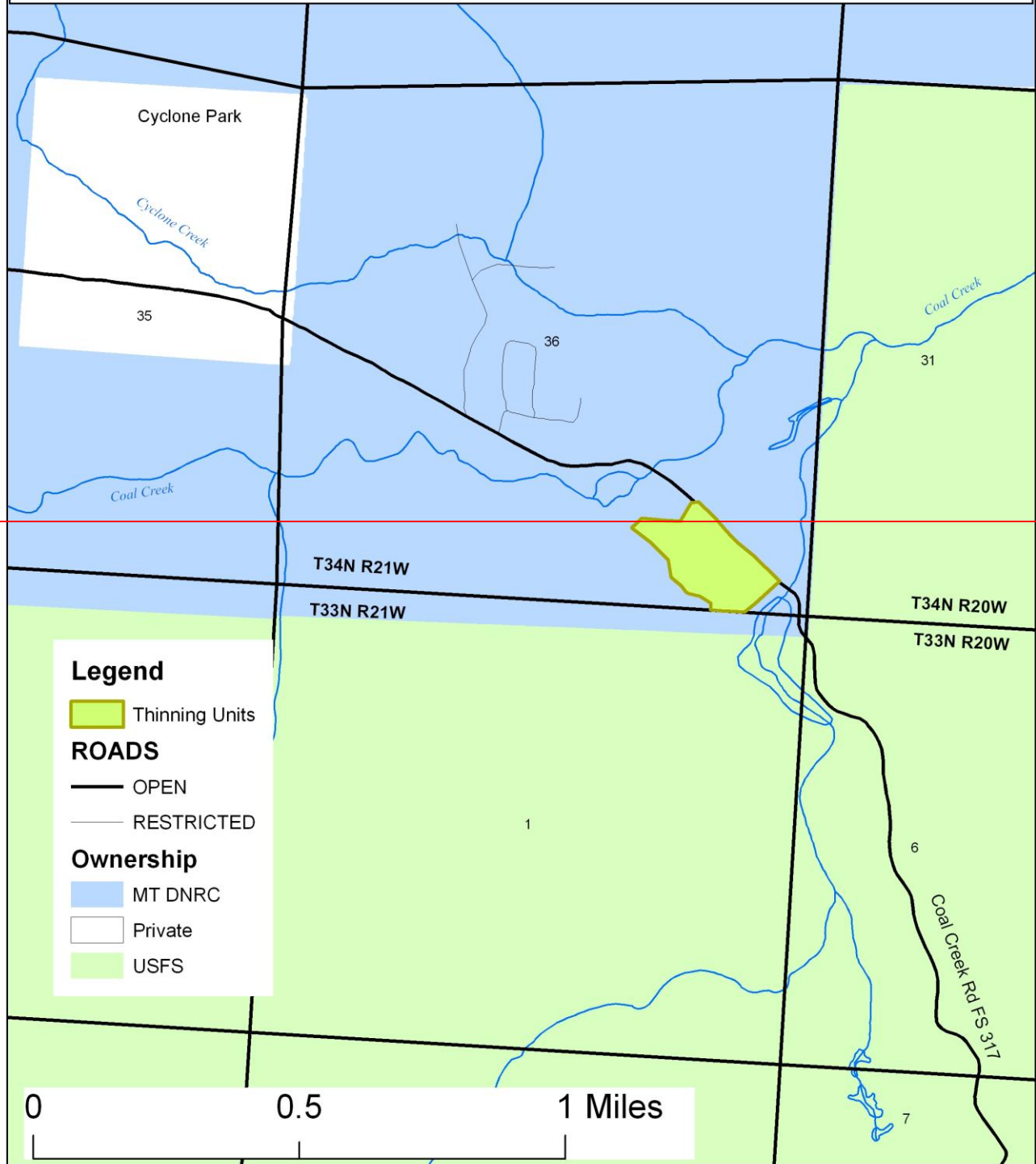




# Coal Creek Precommercial Thinning

Section 36 T34N R21W

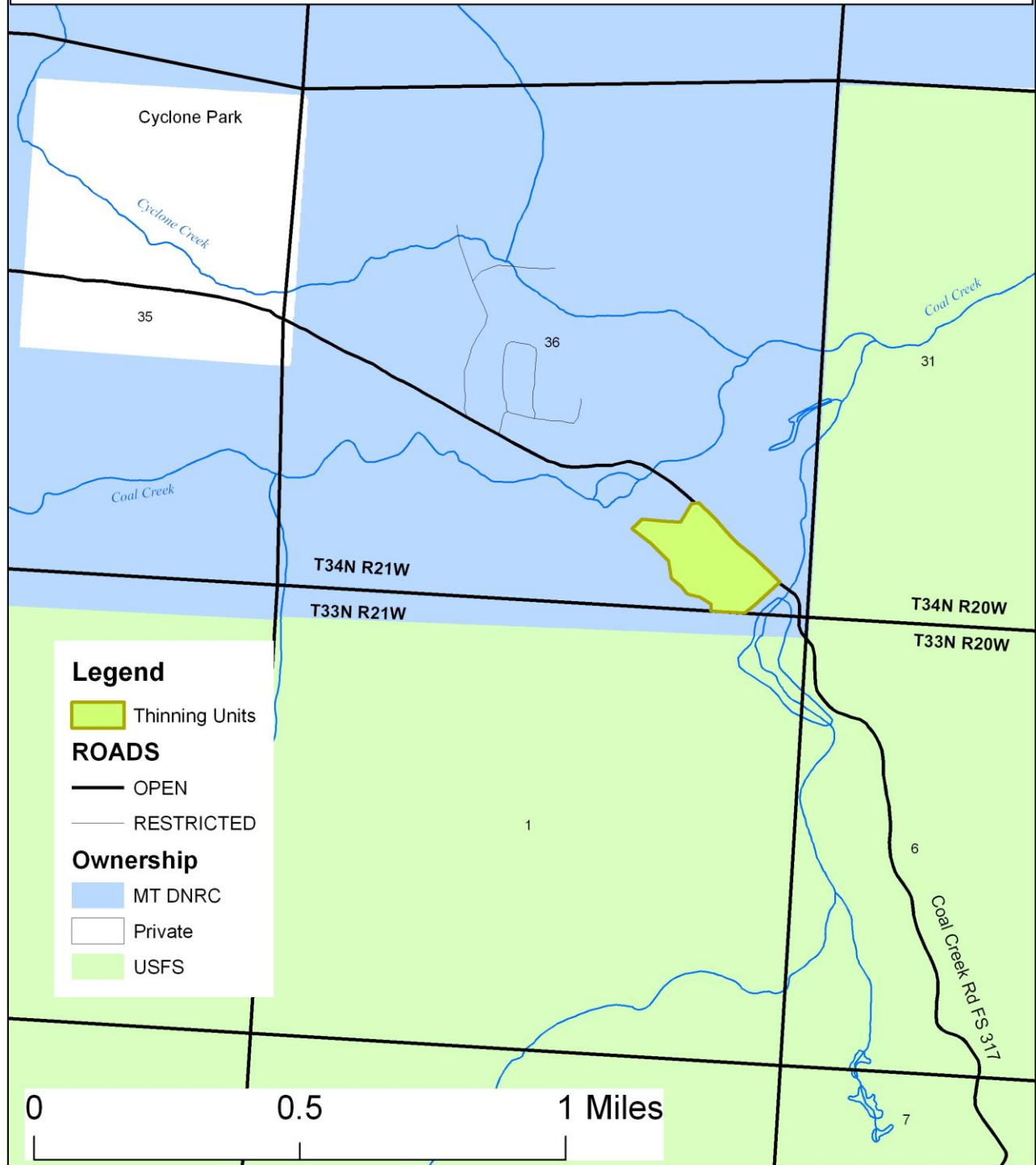
Attachment I  
3 of 3



# Coal Creek Precommercial Thinning

Section 36 T34N R21W

Attachment I  
2 of 2



## **ATTACHMENT II – Wildlife Analysis**

**Pages 11-15**

## **WILDLIFE ANALYSIS**

### **INTRODUCTION**

I reviewed the Werner-Taylor Pre-commercial thin (PCT) and Coal Creek PCT projects proposed for approximately 110 acres in Sections 6, 7, and 18, T32N, R22W and Section 36, T34N, R21W. The proposed pre-commercial thinning would focus on thinning mixed conifer stands to 200-400 trees per acre (TPA) and lodgepole pine stands to  $\approx$  800 TPA. Mixed conifer stands would be hand-felled during a period of approximately 2 months. Lodgepole pine stands would be treated with a masticator, and then thinned again 1-2 years later by a hand crew to achieve the desired TPA for a total time period of approximately 4 months. The following analysis summarizes the anticipated effects of the proposed activities on wildlife.

### **ANALYSIS METHODS**

Analysis methods are based on DNRC State Forest Land Management Rules, which are designed to promote biodiversity. The primary basis for this analysis included information obtained by: field visits, scientific literature consultation, Montana Natural Heritage Program (MNHP) data queries, DNRC Stand Level Inventory (SLI) data analysis, and aerial photograph analysis. The coarse-filter wildlife analysis section includes analyses of the direct, indirect and cumulative effects of the proposed alternatives on old growth forest, connectivity of mature forest habitats, and snags and coarse woody debris. In the fine-filter analysis, individual species of concern are evaluated. These species include wildlife species federally listed under the Endangered Species Act, species listed as sensitive by DNRC, and species managed as big game by DFWP.

### **COARSE-FILTER ANALYSIS**

**TABLE W-1 –COARSE-FILTER.** Analysis of the anticipated effects of the Werner-Taylor PCT and Coal Creek PCT projects on coarse-filter resource topics.

<b>COARSE-FILTER RESOURCE TOPIC</b>	<b>COARSE-FILTER ANALYSIS</b>
Old Growth Forest	Old-growth forest would not be affected by the proposed activities, thus no direct, indirect or cumulative effects would be anticipated.
Connectivity of Mature Forest Habitat	The proposed activities would focus on thinning young stands that are approximately 15 years old. Thus, no adverse direct, indirect or cumulative effects on species sensitive to removal of mature forest cover would be anticipated.
Snags and Coarse Woody Debris	Some individual snags and could be removed due to operational activities and human safety considerations on the 110 acres proposed for treatment. However, the likelihood of removing snags is very low and the coarse woody debris is not anticipated to be affected. Thus, negligible adverse direct, indirect and cumulative effects on species that depend on these resources would be anticipated.

### **FINE-FILTER WILDLIFE ANALYSIS**

**TABLE W-2 –FINE-FILTER.** Analysis of the anticipated effects of the Werner-Taylor PCT and Coal Creek PCT projects on fine-filter species.

<b>SPECIES/HABITAT</b>	<b>FINE FILTER ANALYSIS</b>
<b>THREATENED &amp; ENDANGERED SPECIES</b>	

<p>Canada lynx (<i>Felis lynx</i>) Habitat: Subalpine fir habitat types, dense sapling, old forest, deep snow zones</p>	<p><b>Detailed Analysis Provided Below</b> – The proposed activities would affect 105 acres of temporary non-suitable habitat and 5 acres of lynx summer foraging habitat. These 5 acres would retain approximately 222 trees and would be considered temporarily non-suitable post-thinning. To ensure dense sapling stands for lynx and snowshoe hares are retained, 34 acres (23.6% of project area) would be retained unthinned until these acres meet the definition for sawtimber (i.e., stands must possess at least 10% canopy closure in trees <math>\geq 9</math> inches dbh). Additionally, to ensure that forest structural attributes preferred by snowshoe hares remain post-thinning, shade-tolerant conifer saplings would be retained if they do not compete with crop trees. Connectivity of lynx habitat would not be affected by the proposed activities, due to the availability of suitable habitat in the vicinity of the units. Lynx could be temporarily displaced by the proposed activities for approximately 4 months. Recent timber sales within 2 miles of the project area that may contribute to cumulative effects include the DNRC Cyclone/Coal 99 (2000), Chicken-Werner (2004), and Taylor South (2005) Timber Sales. Changes that resulted from these sales have been updated in SLI data used for connectivity analyses. Considering that a small amount of lynx habitat would be affected by the proposed activities, cumulative effects associated with the proposed PCTs would be minimal. Thus, considering the small amount of lynx habitat that would be affected by the activities, the short 4 month duration of the activities, and that mitigations will be applied to retain habitat characteristics preferred by snowshoe hares; negligible direct, indirect, or cumulative effects to Canada lynx would be anticipated.</p>
<p>Grizzly bear (<i>Ursus arctos</i>) Habitat: Recovery areas, security from human activity</p>	<p>The project area is located in the Lazy Creek Grizzly Bear and State Coal Cyclone Subunits of recovery zone habitat associated with the Northern Continental Divide Ecosystem (<i>USFWS 1993</i>). The proposed activities would focus on thinning crop trees to an average of 10-14 feet in the mixed conifer stands and 6-8 feet in the lodgepole pine stands. Visual screening along open roads would be retained where it occurs. Additionally, trees <math>\leq 3</math> feet tall and pockets of grand fir, brush, and hardwoods that do not compete with crop trees would be retained. The proposed activities within the Lazy Creek Subunit would occur for approximately 2 months and the proposed activities in the State Cyclone Subunits would occur for approximately 4 months. Considering the short duration of the activities and that visual screening along open roads and within the units would be retained, negligible adverse direct, indirect, or cumulative effects affects to grizzly bears would be anticipated.</p>
<p style="text-align: center;"><b>SENSITIVE SPECIES</b></p>	

Bald eagles ( <i>Haliaeetus leucocephalus</i> ) Habitat: Late-successional forest less than 1 mile from open water	No bald eagle nests occur in the vicinity of the project area and no large water bodies occur within 1 mile of the project area. Thus no direct, indirect, or cumulative effects to bald eagles would be anticipated.
Black-backed woodpeckers ( <i>Picoides arcticus</i> ) Habitat: Mature to old burned or beetle-infested forest	No recently (<5 years) burned areas occur within the project area. Thus, no direct, indirect, or cumulative effects to black-backed woodpeckers would be anticipated.
Coeur d'Alene salamanders ( <i>Plethodon idahoensis</i> ) Habitat: Waterfall spray zones, talus near cascading streams	No moist talus or streamside talus habitat occurs in the project area. Thus, no direct, indirect, or cumulative effects to Coeur d'Alene salamanders would be expected to occur as a result of either alternative.
Columbian sharp-tailed grouse ( <i>Tympanuchus Phasianellus columbianus</i> ) Habitat: Grassland, shrubland, riparian, agriculture	No grassland habitat occurs in the vicinity of the proposed harvest units. Thus, no direct, indirect, or cumulative effects to Columbian sharp-tailed grouse would be anticipated.
Common loons ( <i>Gavia immer</i> ) Habitat: Cold mountain lakes, nest in emergent vegetation	No suitable lake habitat occurs within 500 feet of the project area. Thus, no direct, indirect, or cumulative effects to common loons would be expected to occur as a result of either alternative.
Fishers ( <i>Martes pennanti</i> ) Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian	Suitable fisher habitat does not occur in the project area. Thus, no adverse direct, indirect, or cumulative effects to fisher would be anticipated.
Flammulated owls ( <i>Otus flammeolus</i> ) Habitat: Late-successional ponderosa pine and Douglas-fir forest	Suitable flammulated owl habitat does not occur in the project area. Thus, no direct, indirect or cumulative effects to flammulated owls would be anticipated.
Gray wolves ( <i>Canis lupus</i> ) Habitat: Ample big game populations, security from human activities	The proposed activities would occur within 2 miles of the 2011 home range of the Lazy Creek Pack and within the 2011 home range of the Dutch Pack ( <i>MFWP wolf pack data, 2011</i> ). However, the proposed activities are not anticipated to adversely affect big game and would occur for approximately 2-4 months. There are no known wolf rendezvous or den sites in the project area. However, if documented in the vicinity of the project area, mechanized activities would be restricted within 1 mile of wolf dens ( <i>ARM 33.11.430(1)(a)</i> ) and 0.5 miles of wolf rendezvous sites ( <i>ARM 33.11.430(1)(b)</i> ). Thus, negligible direct, indirect or cumulative effects to gray wolves would be anticipated.

Harlequin ducks ( <i>Histrionicus histrionicus</i> ) Habitat: White-water streams, boulder and cobble substrates	No suitable high-gradient stream habitat occurs within 0.3 miles of the project area. Thus, no direct, indirect or cumulative effects to harlequin ducks would be anticipated.
Northern bog lemmings ( <i>Synaptomys borealis</i> ) Habitat: Sphagnum meadows, bogs, fens with thick moss mats	No suitable sphagnum bogs or fens occur in the project area. Thus, no direct, indirect, or cumulative effects to northern bog lemmings would be expected to occur as a result of either alternative.
Peregrine falcons ( <i>Falco peregrinus</i> ) Habitat: Cliff features near open foraging areas and/or wetlands	No suitable cliffs/rock outcrops for nest sites were observed during field tours of the area. Additionally, peregrine eyries have not been documented within 0.5 miles of the project area ( <i>MNHP data, May. 13, 2013</i> ). Thus, no direct, indirect, or cumulative effects to peregrine falcons would be anticipated as a result of either alternative.
Pileated woodpeckers ( <i>Dryocopus pileatus</i> ) Habitat: Late-successional ponderosa pine and larch-fir forest	The project area does not contain suitable pileated woodpecker habitat. Thus, no direct, indirect, or cumulative effects to pileated woodpeckers would be anticipated as a result of either alternative.
Townsend's big-eared bats ( <i>Plecotus townsendii</i> ) Habitat: Caves, caverns, old mines	No suitable caves or mine tunnels are known to occur in the project area. Thus, no direct, indirect or cumulative effects to Townsend's big-eared bats would be expected to occur as a result of either alternative.
Wolverines ( <i>Gulo gulo</i> ) Habitat: Alpine and high-elevation boreal forests, areas that maintain deep persistent snow into late spring	Wolverines have been documented in the southern Whitefish Range as recently as 2012 (A. Jacobs, USFS Biologist, pers. comm. March 17, 2012); however, the proposed units are located outside of areas that maintain deep snowpack late into spring. Given the location of the project area, small size of the project area, and short-duration of the proposed activities, negligible direct, indirect or cumulative effects to wolverines would be expected to occur under the proposed action.
<b>BIG GAME</b>	
Elk ( <i>Cervus canadensis</i> )	The proposed pre-commercial thin would reduce crop tree spacing to an average of 10-14 feet in mixed conifer stands and 6-8 feet in lodgepole pine stands. Visual screening would be retained between units and open roads. Additionally, trees $\leq 3$ feet tall and pockets of grand fir, brush, and hardwoods that do not compete with crop trees would be retained within mixed conifer stands. Approximately 800 TPA would be retained within lodgepole stands. Thermal cover would not be affected by the proposed activities. Thus, negligible adverse direct, indirect or cumulative effects to big game are anticipated.
Mule Deer ( <i>Odocoileus hemionus</i> )	
White-tailed Deer ( <i>Odocoileus virginianus</i> )	

#### **LIST OF MITIGATIONS**

- If a threatened or endangered species is encountered, consult a DNRC biologist and develop additional mitigations that are consistent with the Forest Management Rules for managing threatened and endangered species (ARM 36.11.428 through 36.11.435).
- Within Canada lynx winter foraging habitat, retain shade-tolerant trees (grand fir, subalpine fir, and spruce) that do not pose competition risks to crop trees as per LY-HB4 (*USFWS and DNRC 2010*).



- Manage for snags, snag recruits, and coarse woody debris. Emphasize the retention of downed logs  $\geq 15$  inches dbh where they occur as per LY-HB2 (*USFWS and DNRC 2010*).
- Retain visual screening between open roads and units to increase security for grizzly bears and big game.
- Follow the Stillwater Block Transportation Plan (GB-ST1) to provide seasonal security for grizzly bears (*USFWS and DNRC 2010*).

#### **LITERATURE CITED**

DFWP 2008. Maps of moose, elk, mule deer, and white-tailed deer distribution in Montana. Individual GIS data layers. August 12, 2008. Montana Fish, Wildlife and Parks. Helena, MT.

<http://fwp.mt.gov/gisData/imageFiles/distributionElk.jpg>.

<http://fwp.mt.gov/gisData/imageFiles/distributionMoose.jpg>.

<http://fwp.mt.gov/gisData/imageFiles/distributionMuleDeer.jpg>.

<http://fwp.mt.gov/gisData/imageFiles/distributionWhiteTailedDeer.jpg>

USFWS. 1993. Grizzly bear recovery plan. Missoula, Montana. 181 pp.

USFWS and DNRC. 2010. DNRC Forested Trust Lands Final Environmental Impact Statement and Habitat Conservation Plan. U.S. Department of Interior, Fish and Wildlife Service, Region 6, Denver, Colorado, and Montana Department of Natural Resources and Conservation, Missoula, MT. August 20, 2010.

## ATTACHMENT III- Hydrology

TO: Jason Glenn, Project Leader  
CC: Leah Breidinger, Wildlife Biologist  
FROM: Marc Vessar, Forest Hydrologist  
DATE: June 19, 2013  
RE: Werner Taylor PCT and Coal Creek PCT

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I have reviewed the proposed Werner Taylor PCT and Coal Creek PCT prescriptions and used GIS to identify potential issues for water quality, fisheries habitat and soil productivity.

The proposed Werner Taylor PCT would employ hand thinning (chainsaw) of approximately 92 acres of overstocked stands to promote health and vigor of crop trees. Because this work would be completed without the use of heavy equipment, the risk of soil disturbance—compaction, displacement, and/or erosion-- is very low. Therefore, no adverse direct, indirect or cumulative effects to soils would be expected. Units are located outside of SMZs and RMZs of all streams and would not pose a risk of adverse direct, indirect or cumulative water quality or fisheries habitat impacts.

The proposed Coal Creek PCT would use a track-mounted masticator to thin approximately 18 acres of densely stocked lodgepole pine. The proposed Coal Creek PCT is located predominately on Landtype 28-7 (Martinson and Basko 1998). This landtype is not considered as highly erosive. The terrain is very gently with slopes generally less than 10%. Because much of the area could be trafficked by the machinery, the risk of soil compaction and/or displacement would exist. However, because all operations would occur on dry soils (less than 20% oven-dry weight) a low risk of adverse impacts to soil productivity would result. Units are located outside of SMZs and RMZs of all streams and would not pose a risk of adverse direct, indirect or cumulative water quality or fisheries habitat impacts.

Martinson, A. H. and W. J. Basko. 1998. Soil Survey of Flathead National Forest Area, Montana. USDA Forest Service, Flathead National Forest, Kalispell, Montana.

## **ATTACHMENT IV- MITIGATIONS**

### **Mitigation measures for the Action Alternative**

#### **Vegetation**

- Buck and limb thinning slash to within 18-inches of the ground for a distance of 33 feet from the unit boundary.
- If either slender cotton grass or Crested shield fern were found during mechanical thinning operations, areas containing either species would be excluded from treatment.

#### **Soils**

- Limit machine operations to times when soil moisture is 20% oven-dry weight or less

#### **Wildlife**

- If a threatened or endangered species is encountered, consult a DNRC biologist and develop additional mitigations that are consistent with the Forest Management Rules for managing threatened and endangered species (*ARM 36.11.428 through 36.11.435*).
- Within Canada lynx winter foraging habitat, retain shade-tolerant trees (grand fir, subalpine fir, and spruce) that do not pose competition risks to crop trees as per LY-HB4 (*USFWS and DNRC 2010*).
- Manage for snags, snag recruits, and coarse woody debris. Emphasize the retention of downed logs  $\geq 15$  inches dbh where they occur as per LY-HB2 (*USFWS and DNRC 2010*).
- Retain visual screening between open roads and units to increase security for grizzly bears and big game.
- Follow the Stillwater Block Transportation Plan (GB-ST1) to provide seasonal security for grizzly bears (*USFWS and DNRC 2010*).

#### **Historical & Archaeological**

- If previously unknown cultural or paleontological materials are identified during project related activities, all work will cease until a professional assessment of such resources can be made.

